

BOLEX D8LA CAMERA



FOREWORD

You are now the lucky owner of a distinguished camera. The name **BOLEX** is known throughout the world as a hallmark of technical perfection and precision craftsmanship — Swiss watch-making precision par excellence.

Your **BOLEX D8LA** camera, of course, includes an electric eye which is situated behind the lens. In addition it has other, even newer features. **A new ultra sensitive exposure meter** further improves its handling qualities, and a perfected **rewinding system** enables you to achieve outstanding visual effects.

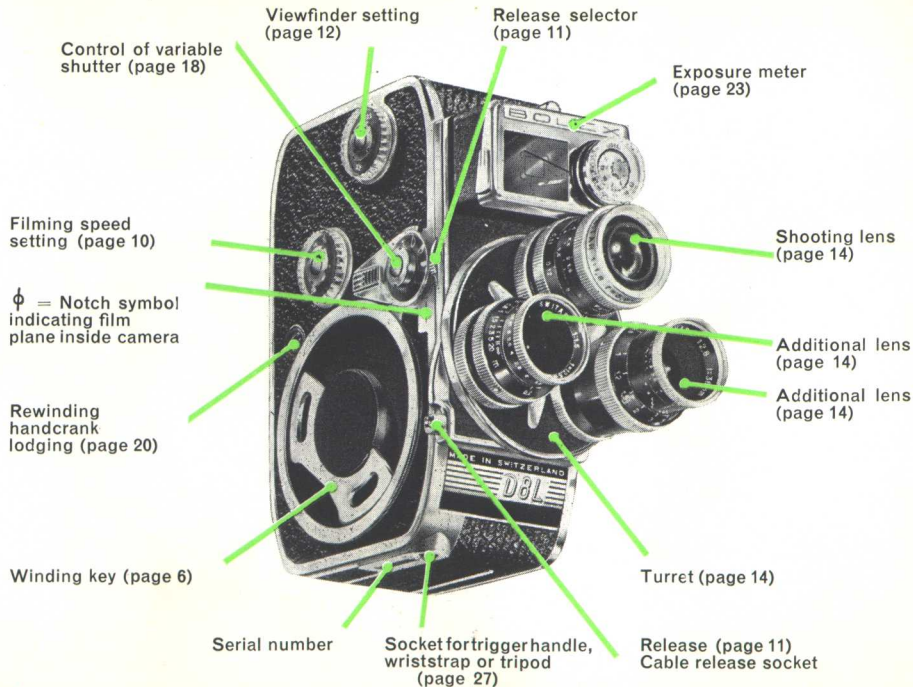
But before getting to work with your **BOLEX D8LA** camera and whenever you have any doubts, consult this instruction manual carefully. It will serve you as an aid for better movies.

PAILLARD S.A.
Sainte-Croix (Switzerland)

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GET TO KNOW YOUR CAMERA

Door lock (page 8)
First and second loading
indicator (page 8)

Viewfinder
(page 12)



Index number calculator (page 22)

Film footage counter
(page 8)

HOW TO LOAD YOUR CAMERA

Before loading your camera, try out the important controls without film: winding, release selector, filming speeds, variable shutter, rewinding, functioning of the built-in lightmeter, release. Familiarize yourself with your camera in order to avoid wasting film. While it is not difficult to operate the camera, a certain amount of experience is necessarily required for good results.

Important — When your camera is not loaded, never let it run at more than 32 f.p.s., as this could cause damage to the mechanism.

WINDING

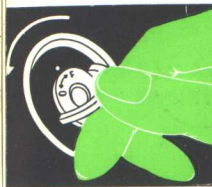
Lift the winding key and move it back and forth until a definite stopping point is reached. The motor is now fully wound and will run off about 7 ft. of film. This gives you about 31 seconds of filming at a speed of 18 frames per second.

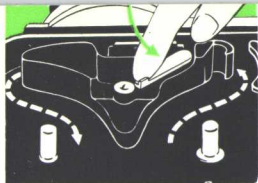
To prevent the motor running down during an important shot it is advisable to re-wind after every shooting.

To avoid any risk of fogging the film, the camera should be loaded in the shade, or better, in semi-darkness.

TO OPEN THE CAMERA

Lift up the hinged semicircular ring, turn it to position O and lift the door.





1



2



3



4

TO INSERT THE FILM INTO YOUR CAMERA

Place the open camera with the hinged door towards you and open the pressure-pad by moving the lever (fig. 1).

Remove the empty spool from the camera.

Hold the full spool in your right hand in such a manner that the film cannot become loose. Unwind about 10 inches of film, and slip the full spool on its spindle, guiding the film through the gate as illustrated (fig. 2).

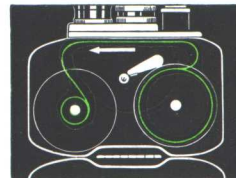
Close the pressure-pad by pushing the lever while holding the full spool in its place with your right hand (fig. 3). (A safety device makes it impossible to close the door unless the pressure-pad is closed.)

Now take the empty spool with the side marked I facing you and insert the end of the film into the slit which is below the mark I (fig. 4). Wind 2 to 3 turns of film on the spool, rotating it in a clockwise manner.

Place the take-up spool on its spindle disregarding the position of the notches (fig. 5).

The dark, shiny side of the film must be facing towards you, and the light side towards the lens.

5



7

Before closing the camera door, press the release for a fraction of a second to check that film is running correctly.

Now close the door and lock it by turning the semicircular ring to F. Push the ring back so that the single point mark is uncovered to indicate that the film is on its first 25 ft. run.

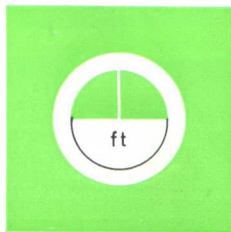
N. B. When the first half of your double-run film has been exposed, turn the film over in order to expose the other half.

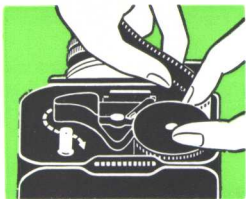
FILM FOOTAGE COUNTER

The film footage counter on the back of the camera automatically indicates the amount of film that has been exposed.

The film being loaded, the letters **ft.** (feet) will appear behind the window, because the indicator automatically returns to the starting point when the pressure-pad lever is operated in the course of loading or unloading the camera.

Press the release and run the film until the figure 0 appears opposite the white notch. The 4 ft. film leader has now been run off.





HOW TO INVERT YOUR FILM

An audible end-of-film signal indicates that the full length of the film has now been exposed (the indicator shows 25 ft.). The spool should now be turned over to expose the other half of the film.

Proceed as follows:

The motor should be allowed to run until 10 *clicks* of the audible warning signal have been counted. The trailer is now fully wound on the take-up spool.

Open the camera out of the direct rays of the sun, as otherwise there is a risk that the film may be partly fogged.

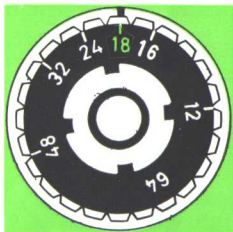
The two spools may then be taken out and the camera can be reloaded by placing the full spool on the upper (film feed) spindle, with the side marked II uppermost.

After closing the camera door, push the semicircular ring back so as to leave the 2 points uncovered to indicate that the film is on its second 25 ft. run.

HOW TO UNLOAD YOUR CAMERA

When the film has been fully exposed, the original BOLEX spool supplied with the camera, now on the upper spindle, will be empty again.

Remove the full spool, observing the same caution as you did while inverting the film. Send it to the processing laboratory in accordance with the manufacturer's instructions.



FILMING SPEEDS

The speed control dial has seven settings — 12, 16, 18, 24, 32, 48 and 64 frames per second.

The usual filming speed nowadays is 18 frames per second. It replaces 16 f.p.s. as the international standard for filming as well as for screening. Movements are reproduced smoother and if a magnetic sound track is to be added to the film, the sound will be purer and clearer.

When the film is projected at normal speed, films shot at a slower speed (12 f.p.s.) produce an illusion of accelerated motion on the screen, while films shot at higher speeds (24/64 f.p.s.) will produce a slow motion effect.

To set filming speed, rotate speed control dial to corresponding setting in front of the notch.

Do not forget that altering the filming speed necessitates a change of diaphragm. Therefore, adjust the exposure meter guidemark (see page 23).

RELEASE SELECTOR

According to the effect desired, use either normal, continuous running or single-frame exposures. These are controlled by the release selector which also locks the camera:

① Locked camera

Normal position when the camera is not in use.

② Single-frame exposure

Used for titles, cartoons, scientific films, trick effects, extreme speed-ups (clouds, sunsets, comical effects, etc.).

The exposure is made as the release is **fully** pressed.

③ Normal running

Normal filming position. The camera runs as long as you press the release **fully**.

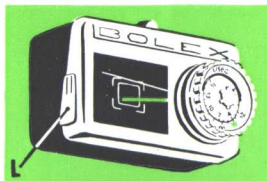
④ Continuous running

When the camera is running normally, push the release selector downwards. The camera will run as long as the motor is wound. Used mainly for self-filming.

Cable Release: see page 4.

Exposure times: see table page 31.





VIEWFINDER

The viewfinder allows you to choose the framing best suited to the scene to be shot.

The viewfinder is continuously adjustable by means of a knob to match the field covered by lenses of 12.5 (standard) to 36 mm (telephoto) focal length.

Because the needles of the exposure meter only appear perfectly sharp at the 12.5 mm setting, frames corresponding to the focal lengths of 25 mm (outer frame) and 36 mm (inner frame) have been engraved on the aperture to permit you to determine the exact field of view for telephoto lenses even when the viewfinder control button is left on position 12.5.

The lever (L) (field adapter) controls a flip-up element placed inside the exposure meter housing. When in vertical position, it adjusts the viewfinder field to match the field of a 5.5 mm wide angle lens while the viewfinder control button remains on position 12.5.

The circle which then shows inside the field of view serves as a reminder that the flip-up element is in action.

To adapt the viewfinder for movie makers who wear glasses, the viewfinder eyepiece can be replaced by a special lens. Any enquiries should be addressed to the BOLEX distributor through your dealer, specifying the strength required in diopters.

PARALLAX CORRECTION

The area covered by the lens is slightly different from the area seen by the viewfinder; this difference is called parallax. Parallax becomes noticeable in shots taken at short distances (i. e. less than 5 ft. with a standard lens). For exact correction of the parallax, use a parallax corrector prism over the exposure meter aperture. Four parallax corrector prisms are supplied in pairs, either for 25 and 50 cm or for 1 and 2 ft. (30 and 60 cm). The subject to be filmed can also be framed with the help of the upright and the table of the BOLEX 8 mm titler.

LENSES



5.5-6.5 mm



12.5-13 mm



25 mm



36 mm

Your camera takes a wide range of standard mount lenses:

- **standard lenses (12.5 mm or 13 mm)** for ordinary shots. Give normal perspective;
- **wide-angle lenses (5.5 mm to 6.5 mm)** for long shots or when it is difficult to stand back from the subject (buildings, interiors, etc.). Give heightened perspective;
- **telephoto lenses (25 mm to 36 mm)**, for close-up shots of more or less distant subjects; also produce very effective extreme close-ups. Give flattened perspective.

The lenses can be interchanged. However, it is preferable to screw wide-angle lenses in the seat indicated by an engraved dot.

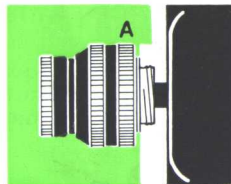
Screw the lenses into their mount, holding them by the fastening ring A.

Another ring adjusts the diaphragm; in other words, it controls the amount of light which passes through the lens and exposes the film.

Some lenses have a third ring which is used for focusing.

The handling of the diaphragm ring gets easier with **a control lever.**

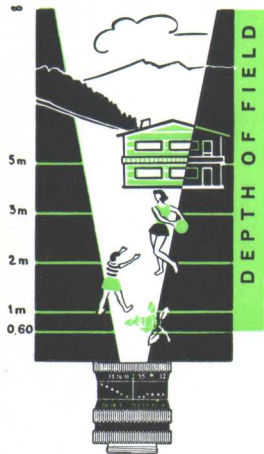
This device is available from your **BOLEX** dealer.



To complete your optical equipment, **BOLEX** offers you zoom lenses (Pan Cinor 40), optical attachments such as Möller anamorphic lenses, filter sets and lens hoods.

DISTANCE SETTING

The outstanding quality of lenses and film makes it possible to achieve remarkable sharpness in 8-mm filming. In sunny weather, with a standard lens set at 6 ft, you can obtain a sharp picture from approximately 3 ft. to infinity.



Standard Lens

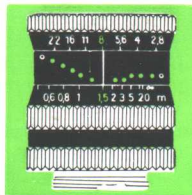
In order to obtain the best results when using a lens with an adjustable focusing mount, we advise you to estimate the average distance at which the subject will be filmed and to adjust the focusing ring of the lens accordingly.

On the Kern-Paillard lenses, a red number indicates the distance most frequently used, which will give you the maximum sharpness from foreground to background in average circumstances.

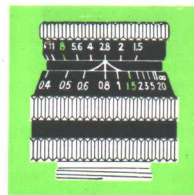
For close-ups it is, however, necessary to set the exact distance between subject and film. This is also advisable when filming with a telephoto lens or with the lens diaphragm wide open. (**For example:** distance of 3 ft. or less and diaphragm set to 2.8 or less.)

The distances are measured from the film plane (see page 4).

The depth of field, that is to say the zone in which the subject is sharp, varies according to the lens focal length, diaphragm aperture and filming distance.



Visifocus Scale



Mobile Compass

With a long focal length lens, open diaphragm or short filming distance the depth of field is *shallow*.

With a short focal length lens, closed diaphragm or long filming distance the depth of field is *great*.

On most lenses, a depth-of-field scale indicates the limits within which the filmed subject will be sharp. The illustrations show two Kern-Paillard lenses, one with the "Visifocus" scale (orange dots) and the other with the "mobile compass" (white curve).

Lenses are always supplied with a depth-of-field chart.

VARIABLE SHUTTER

Your camera is equipped with a variable shutter. By reducing the opening angle, the film exposure time is reduced proportionately without changing the filming speed.

The control lever can be moved while filming, or it can be set in one of the positions shown on illustration opposite.

The shutter can be locked in the open and half-closed positions by pushing the grooved slide (a on illustration opposite) in the direction of the arrow.

Exposure times for different settings of the variable shutter and for different filming speeds are listed in the table on page 31.

open



half-closed



close I



stop




USE of the **VARIABLE SHUTTER**

- ① If the light is particularly strong (reflection from snow or water), the variable shutter can be adjusted so that exposure is reduced and the use of a neutral density filter becomes unnecessary.
- ② The variable shutter increases picture sharpness of moving subjects by reducing the exposure time. This is particularly true for films shot at 32 f.p.s. or more (slow motion). On the other hand, if filmed at normal or slower speeds with the variable shutter half-closed, the rapidly moving subject will seem jerky when projected.
- ③ The variable shutter allows you to produce a number of professional effects such as the following.

a) **FADE-IN**

A fade-in is made by gradually increasing the exposure of a shot to make it go from dark to normal brightness on the screen.

To produce a fade-in, start from the position as illustrated; (lever at extreme right notch - Letter S = Stop); press the release and turn the shutter lever smoothly all the way down (symbol  opposite the notch) and continue filming. As a rule, this operation should not take more than about 2 seconds.

N. B. The camera will not start while the shutter control lever is in the position illustrated (lever at extreme right)

b) **FADE-OUT**

A fade-out is a gradual darkening of the shot until it has disappeared completely. **To produce a fade-out**, the same procedure as for a fade-in is carried out in reverse. Start with the shutter lever in a horizontal position (symbol  opposite the notch) and then move it slowly up until the camera stops.

NB — Fade out + Fade-in = Transitional Fade

c) **LAP DISSOLVE**

A lap dissolve is unquestionably one of the most pleasing transitional effects between two sequences and is made by superimposing a fade-in on a fade-out; thus, a remarkably soft transition is achieved.

How is it done ?

Although the variable shutter is essential for this, it alone is not enough. A special **rewinding system** has to be provided.



REWINDING THE FILM

Engage the small hand crank in its lodging (see illustration page 4), and turn clockwise.

As each frame passes, you will hear a clicking sound. Five frames are rewound with each turn of the hand crank.

You may rewind sixty frames or so without affecting the correct running for your film.

The footage counter subtracts automatically the length of film that has been rewound.

To produce a lap dissolve, proceed as follows:

- End shooting by a fade-out of 2 seconds.
- Disengage the motor by moving the control lever of the variable shutter slightly to the left (position «closed»).
- Do not rewind the motor.**
- Rewind 24, 32, 36 or 48 frames corresponding respectively to a filming speed of 12, 16, 18 or 24 f.p.s.
- Frame the second scene.
- Move the control lever of the variable shutter to "S".
- Press the release knob, and make a fade-in of the same length as the previous fade-out*.
- Continue filming.

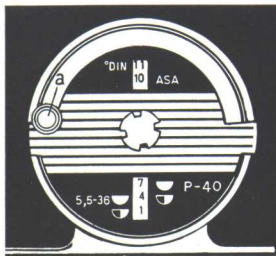
* It will usually be sufficient to count 'hundred and one, hundred and two' for each operation.

SETTING THE DIAPHRAGM

Setting the diaphragm of your camera is as easy as it is accurate, thanks to

A new ultra sensitive exposure meter

along with an index number calculator (on the lid of your camera).



a) Reading the index number calculator

- Set the calculator for the **sensitivity rating** of your film by means of the slide (a). Calibration is both for ASA and for °DIN.
- If you are using a PAN CINOR 40 lens, you will find the index numbers on the lower right-hand side of the calculator. If you are using a lens with a fixed focal length (5.5 mm - 36 mm), read from the lower left-hand side.
- Read the index number corresponding to the setting of your variable shutter:

shutter open 

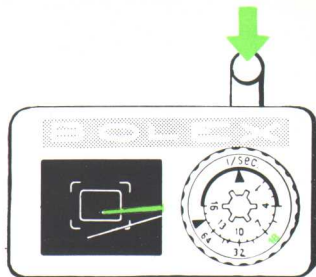
shutter $\frac{1}{2}$ closed 

b) **Transfer the index number reading** to the exposure meter dial by lifting the plastic disc and turning it so that the index number faces the filming speed you have selected.

c) **Press cell control trigger:** the cell immediately computes the correct exposure. The trigger should be pressed each time a new diaphragm setting is desired.

d) **Look through the viewfinder** at the scene to be filmed and turn the lens aperture ring until the mobile needle (black as seen in front) is exactly superimposed on the guide-mark (red as seen in front).

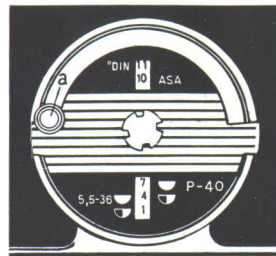
The lens is now set for correct exposure.




You need not worry about your exposure meter setting as long as you film at the same speed and with the same shutter opening. All you have to do to ensure correct exposure is to press the cell control trigger before each filming.

EXAMPLE:

Colour film 10 ASA
Lens with a fixed focal length (5.5 - 36 mm)
Variable shutter open.



- Bring the figure 10 into the upper window of the calculator facing the inscription ASA
- Take reading from lower left-hand side of calculator (5.5 - 36 mm)
- The reading corresponding to the symbol  is

index number 4.

With the same film and shutter setting, the index number for a PAN CINOR lens would be 7.


IMPORTANT

The black triangle on the mobile disc must always be within the limits of the thick black half-circle of the fixed outer crown.

CAUTION

When setting the diaphragm, see that you do not inadvertently cover the lens with your hand or any other object.

For single frame exposures set the exposure meter dial as follows:

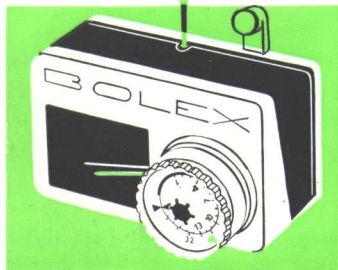
- Variable shutter open (

These positions of the exposure meter dial should be used regardless of the filming speed setting.

CHECKING THE EXPOSURE METER ADJUSTMENT

The exposure meter is shockproofed and carefully adjusted at the factory. Nevertheless, it is advisable to check it from time to time for accuracy and to correct it, if required.

- Cover the lens or, if no lens is mounted on the camera, close the lens opening of the turret by means of a plug.
- Hold camera vertically (normal shooting position).
- Bring black triangle of the mobile disc exactly in front of the identical black triangle on fixed crown (see illustration).



The exposure meter indicator should be superimposed exactly on the red guide-mark.

If this is not the case, **slightly** turn the adjusting screw inside the exposure meter housing by means of a fine screw-driver.



SOME WORDS OF ADVICE BEFORE SHOOTING

Hold your camera **straight** and **firm**. If you follow a moving object, steady the camera against something; film slowly and without jolts. Preferably use a trigger handle and, in some cases, a monopod or a tripod. The latter must be used with telephoto and variable focus lenses.

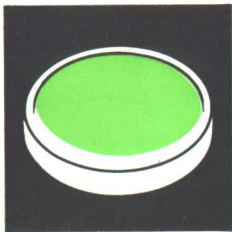
Remember that it is **the movement** of the subject which will make your film look alive and interesting. Change your shooting angle frequently. Remember that close-ups produce the best effect. Do not waste film on lengthy shots — 5 seconds are usually enough.

Make it a habit to **rewind** your camera after each take — even a short one.

When taking **indoor shots**, use *artificial light* type film.

In outside **night shots** do not rely too much on the lightmeter reading. Open the diaphragm completely.





FILTERS

You can improve your movies by using **BOLEX** filters with mounts corresponding to **ASA** standards, series 4. 5.

For black and white film

Yellow, neutral and anti-UV filters

For color film

Neutral, anti-UV and conversion filters.

To determine the exposure index, use the sensitivity rating of the film (e.g. 16 **ASA** for Kodachrome type A) and not the sensitivity as corrected for the filter (e.g. 10 **ASA** for Kodachrome type A with conversion filter).

Regardless of the filter or lens hood used, no correction need be made.

The BOLEX photoelectric cell automatically takes account of any filter fitted to the lens.

LENS HOOD

This attachment protects the lens from direct light, which would cause spots on your film. It is therefore indispensable for filming with half-side light.



UPKEEP

CAMERA

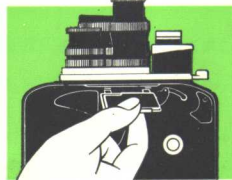
Do not, in any circumstances, take the camera mechanism apart. Should you do so, you lose any rights under the manufacturer's guarantee.

The interior of the camera must be kept absolutely clean.

A certain amount of gelatine and dust may sometimes be left in the gate and on the pressure-pad after a length of unexposed film has been run through.

For cleaning the interior of the camera proceed as follows:

1. Open the pressure-pad, as shown on page 7, fig. 1.
2. Remove the pressure-pad by pulling it towards you.
3. Using a clean cloth twisted around the end of a small wooden stick, clean the pad and gate gently, particularly around the taking aperture. If the gelatine deposit is sticky and hard to remove, moisten the cloth slightly, wiping well afterwards to ensure absolute dryness.
4. Put the pressure-pad back in place by carefully introducing it at an angle (see illustration). Check if it is in its correct position by pushing it against the gate with your finger. Removing the finger will release the pressure and the pad should open, even if your camera is turned towards the ground.
5. Close the pressure-pad by pushing the lever back into position.





LENSES

The outer surfaces of the lenses should be kept absolutely clean. For cleaning them, use a special soft tissue-paper sold in photo stores. Lenses should not be constantly rubbed, as this might damage the anti-reflex coating.

Always put the lens caps on the lenses between shots. When the camera is not used for some time, put the lenses away in their BOLEX cases which are protected against humidity. Special care should be taken to avoid getting dust or finger prints on the glass surfaces (perspiration is harmful to glass).

LUBRICATION

Like a high-quality watch, the camera rarely needs to be lubricated. When new, it contains a reserve of grease and oil sufficient for 2 to 3 years. Thereafter it is advisable to turn in the camera to a BOLEX distributor for fresh lubrication.

CARE OF CAMERA IN TROPICAL REGIONS

Certain precautions must be taken to protect both camera and film against heat and humidity.

Airtight boxes and protective chemicals for your camera are available on the market.

Be extra careful with your equipment when in tropical regions.

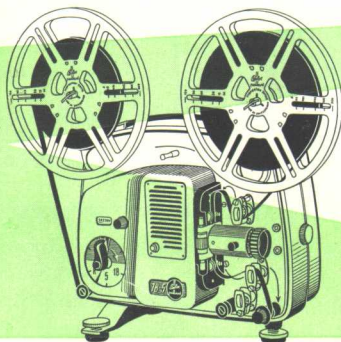
EXPOSURE TIMES

Filming Speed	Variable Shutter Open		Variable Shutter Half-Closed	
	Normal or Continuous Running	Single-Frame Exposure	Normal or Continuous Running	Single-Frame Exposure
12 f.p.s.	1/29 sec.	1/27 sec.	1/58 sec.	1/64 sec.
16	1/38	1/30	1/76	1/75
18	1/43	1/30	1/86	1/75
24	1/58	1/30	1/116	1/75
32	1/76	1/30	1/152	1/75
48	1/116	1/30	1/232	1/75
64	1/152	1/30	1/304	1/75

As soon as your first film has been returned from the processing laboratory you naturally like to see it immediately and we don't want to destroy your pleasure but... **BE CAREFUL.** A film is precious and can easily be damaged. A slight carelessness and you may have destroyed something **IRREPLACEABLE.** Surely you do not wish to risk lightly what your talent your **BOLEX D8LA** and luck have helped you to achieve?

Of course not. You are bound to select a projector which is as accurate, as safe and as well designed as your camera:

THE BOLEX 18-5 PROJECTOR



Why 18-5? This magic formula simply means that you can project your film at the normal speed of 18 f.p.s. and that, by turning a button, you can slow down from 18 f.p.s. to 5 f.p.s. while projecting. This enables you to see the film in extreme slow motion so that you may really see the details, appreciate its finest points and make the pleasure last.

Ask your dealer for a demonstration—it will convince you.

This projector excels by its easy handling, its high light output and its absolutely smooth running. The optical equipment is of the highest quality. Lenses of three focal lengths are available: 15 mm, 20 mm and 25 mm, all with f/1.3 apertures.



THIS IS IMPORTANT

We would recommend you to shoot a roll of film and check the results before filming a holiday trip or other important occasion. This will allow you to become familiar with your camera and will show you if you are correctly following the indications in this instruction manual. When in doubt, see your retailer for advice or help.

With BOLEX equipment you also buy the service that lies behind the product, for Paillard is backed by a world-wide organisation that can offer expert service facilities almost everywhere. The BOLEX Authorised Dealer plaque is a signpost to better service and has only been established after long years of experience in both the amateur and professional fields—and it matches in all ways the excellence of the products themselves. Should you write to a BOLEX distributor or dealer, do not forget to mention the serial number of your camera, engraved on the base.

WARNING

If service covered by guarantee is required, the equipment must be returned to the official BOLEX Distributor in the country concerned. For convenience' sake, it can be handed to a BOLEX Dealer with instructions for its return to the official BOLEX Distributor, who alone is authorised to carry out this service.



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Paillard S. A. cannot guarantee each detail of the appearance and characteristics of the equipment described in this instruction manual.

